Patent claims

1. A fin, in particular corrugated fin, in particular for a flat tube heat exchanger, in particular a coolant or charge-air cooler for motor vehicles, the fin being arranged between flat tubes of the heat exchanger or being arranged perpendicularly to them and being connected to them with a cohesive material joint or mechanically, being provided with gills and being able to be flowed over by air and having molded stiffening means, characterized in that the stiffening means are integrated in the gills (6a, 6b; 8a, 8b).

2. The fin as claimed in claim 1, characterized in that the gills (6a, 6b; 8a, 8b) have a buckle-proof profile which deviates from a straight line or a rectangular profile.

3. The fin as claimed in claim 2, characterized in that the profile has an S-shaped cross section (6a) with two rounded portions.

4. The fin as claimed in claim 2, characterized in that the profile has a cross section (8a) which is bent twice, three times or multiple times, for example an approximately Z-shaped cross section.

5. The fin as claimed in claim 2, characterized in that the profile has an approximately V-shaped cross section (8a) which is bent once.

6. The fin as claimed in claim 3, 4 or 5, characterized in that the cross section (6a; 8a) has an incident-flow region and a flow-off region (9, 11; 12, 14) and a deflecting region (10; 13) arranged between them, the incident-flow region and flow-off region respectively having an

incident-flow angle and flow-off angle (αs, αz) of approximately the same size, and the deflecting region having a deflecting angle (βs, βz), in that the deflection angle is greater than the incident-flow angle and flow-off angle, i.e. $\beta s > \alpha s$ and βz αz.

7. The fin as claimed in at least one of the preceding claims, characterized in that the following ranges apply for the angles αs and βs:

$0 \alpha s \leq 10$ degrees, and
$15 \beta s \leq 35$ degrees.

8. The fin as claimed in at least one of the preceding claims, characterized in that the following ranges apply for the angles αs and βs:

$0 \alpha s \leq 5$ degrees, and
$20 \beta s \leq 30$ degrees.

9. The fin as claimed in at least one of the preceding claims, wherein the following ranges apply for the angles αz and βz:

$0 \alpha z \leq 25$ degrees, and
$15 \beta z \leq 35$ degrees.

10. The fin as claimed in at least one of the preceding claims, characterized in that the following ranges apply for the angles αz and βz:

$5 \alpha z \leq 15$ degrees, and
$20 \beta z \leq 30$ degrees.

11. A heat exchanger with header boxes and fluid ducts, such as tubes, connected to them in a fluid-tight manner, the tubes being held in a

sealed manner in each case in openings of the header boxes, with an inlet and an outlet, with fins being arranged between the tubes or perpendicularly to the tubes, characterized in that the fins are designed as claimed in at least one of the preceding claims.